REMARKS

The foregoing amendment is provided to more particularly point out the subject matter claimed and to place the current application in condition for allowance, rather than to avoid prior art.

Applicant respectfully requests reconsideration of the above identified application. Claims 1-30 are pending. Claims 1-30 are rejected. Claims 8 and 25 are amended.

Applicant respectfully notes that in the Final Office Action mailed on June 6, 2004, interpretations or characterizations by the Examiner, include inferences and/or potential limitations, to which Applicant does not agree.

The Final Office Action mailed on June 6, 2004 alleges that Applicant's arguments failed to clearly point out the patentable novelty that the claims present in view of the cited references. Applicant respectfully submits the arguments below to more clearly point out the patentable novelty of the claims.

The remaining comments are directed to Claims 1-30.

35 U.S.C. § 103(a) REJECTIONS

The Final Office Action mailed on June 6, 2004 rejects Claims 1-30 under 35 U.S.C. 103(a) as allegedly being unpatentable over US Pat. No. 5,872,980 (Derrick) in view of US Pat. No. 6,148,395 (Dao).

The Examiner states with regard to Claims 1, 8, 14, and 17 that Derrick fails to explicitly teach to allow the first modification request to succeed if the

11

identified ownership state corresponds to the first requesting device but that it would have been obvious at the time the invention was made because granting requests for semaphore modifications according to an order such as round robin is well known in the art.

Applicant respectfully disagrees with the Examiners assertions. Even if a priority ordering such as round robin was used to order modification request, the combination does not arrive at the present claimed invention.

Claim 1 sets forth an article of manufacture including... code stored thereon which, ... causes the machine to... identify an ownership state of a semaphore ...; arbitrate to identify a first modification request ... from a first requesting device; allow the first modification request to succeed if the identified ownership state corresponds to the first requesting device; and allow the first modification request to succeed if the identified ownership state corresponds to no ownership.

Derrick discloses that requesting devices would read from the semaphore repeatedly until access to the shared resource was achieved. The process was known as "spinning," (col. 1, lines 48-56). Derrick proposed a spin buffer for locking out accesses to each semaphore independently of accesses to other semaphores (col. 2, lines 61-63).

The cited references do not disclose or suggest causing a machine that receives the semaphore modification requests to identify an ownership state of the semaphore and to allow the first modification request to succeed if the identified ownership state corresponds to the first requesting device.

Derrick's device simply locks out accesses by other requesting devices to the same semaphore without knowing if it is owned by another master. It is the requesting device of Derrick, rather than a machine to receive the requests, that

12

checks to see if the shared resource is owned by another device (Fig. 2, steps 204 and 206, col. 3, lines 57-64).

In Claim 1, a machine that receives the semaphore modification requests identifies an ownership state of the semaphore and allows the first modification request to succeed if the identified ownership state corresponds to the first requesting device. Since that one machine accesses the semaphore to identify the ownership state, exclusive access to a semaphore is guaranteed and the locks of Derrick are not required. In contrast, access to a semaphore of Derrick needs to be locked and unlocked by the requesting device to guarantee exclusive access and to allow another device to perform a semaphore operation--even to allow a device that currently owns the desired shared resource to relinquish ownership (col. 2, lines 33-37; Fig. 2, step 208, col. 3, line 67 through col. 4, line 2).

On the other hand, a machine that receives the semaphore modification requests, as set forth in Claim 1, identifies an ownership state of the semaphore, can arbitrate the requests and identify a modification request from a first processor to allow to succeed if the ownership state corresponds to the first processor.

Accordingly in light of the argument presented above, Applicant respectfully requests the Examiner withdraw the rejection of Claim 1.

Similarly, Claim 17 sets forth a multiprocessor comprising... a semaphore checker coupled to...: receive one or more semaphore modification requests..., identify an ownership state of the semaphore, arbitrate... and identify a first modification request from a first requesting processor..., allow the first modification request to succeed if the identified ownership state corresponds to the first requesting processor and... if the identified ownership state corresponds to no ownership.

13

Instead of a semaphore checker that receives requests, it is Derrick's requesting device that locks out other devices and checks to see if the shared resource is owned by another device (Fig. 2, steps 204 and 206, col. 3, lines 57-64).

While one device checks to see if a shared resource is available, other devices may access data in the spin buffer (col. 3, lines 5-8). In order to guarantee exclusive accesses, Derrick does not change the practice of requiring the requesting device to clear the lock bit even if the semaphore would indicate that the shared resource is not owned (Fig. 3, step 310, col. 4, lines 23-28). If the spin buffer of Derrick receives a request for a semaphore from a first requesting device before the lock bit has been cleared by another device, it can not allow the request to succeed even if the ownership state corresponds to the first requesting device or corresponds to no ownership. Since the spin buffer of Derrick does not check the ownership state, semaphore access can be granted to a spinning requesting device and denied to the device with ownership (Fig. 2, col. 3, lines 57-67).

On the other hand, a semaphore checker, as set forth in Claim 17, that identifies an ownership state of the semaphore can arbitrate and identify a modification request from a first processor to allow to succeed if the ownership state corresponds to the first processor.

Accordingly in light of the argument presented above, Applicant respectfully requests the Examiner withdraw the rejection of Claim 17.

Claim 8, as amended, sets forth a method comprising: receiving one or more semaphore modification requests...; identifying an ownership state of a semaphore corresponding to the... requests; arbitrating to identify a first modification request..., the first modification request from a first requesting

14

device to succeed if the identified ownership state corresponds to the first requesting device....

The spin buffer of Derrick does not identify an ownership state of the semaphore and arbitrate to identify a modification request, the first modification request from a first requesting device to succeed if the identified ownership state corresponds to the first requesting device.

Accordingly in light of the argument presented above, Applicant respectfully requests the Examiner withdraw the rejection of Claim 8.

Claim 14 sets forth a multiprocessor system comprising: means for receiving... semaphore modification ...; means for identifying an ownership state of a semaphore ...; means for arbitrating to identify a first modification request... from a first requesting device; means for granting the first modification request if the identified ownership state corresponds to the first requesting device....

Applicant submits that the combination of Derrick and Dao should not be considered equivalent under 35 U.S.C. 112, paragraph six, to the subject matter set forth in claim 14.

The MPEP § 2181 states that:

> When making a determination of patentability under 35 U.S.C 102 or 103, past practice was to interpret a "means or step plus function" limitation by giving it the "broadest reasonable interpretation." Under the PTO's long-standing practice this meant interpreting such a limitation as reading on any prior art means or step which performed the function specified in the claim without regard for whether the prior art means or step was equivalent to the corresponding structure, material or acts described in the specification. However, in Donaldson, the Federal Circuit stated:

> Per our holding, the "broadest reasonable interpretation" that an examiner may give means-plus-function language is that statutorily mandated in paragraph six. Accordingly, the PTO may not disregard the structure disclosed in the specification corresponding to such language when rendering a patentability determination.

While Applicant intends that the broadest reasonable interpretation should be given to claims 1-13 and 17-30, the means-plus-function form of claim 14 may not

15

be modified by Applicant with language containing sufficient structure, material or acts for achieving the specified function. Therefore claim 14 should be construed to cover the corresponding structure, material or acts described in the specification and equivalents thereof.

Derrick does not disclose equivalent means for identifying an ownership state of a semaphore, or equivalent means for granting the first modification request if the identified ownership state corresponds to a first requesting device.

Accordingly, at least in light of the argument presented above, Applicant respectfully requests the Examiner withdraw the rejection of Claim 14.

With regard to Claim 24, The spin buffer of Derrick does not check the semaphores but rather caches them and allows a requesting device to check if a shared resource is owned by another device (col. 3, lines 61-65). Applicant respectfully submits that since the requesting device simply locks out accesses by other devices to the same semaphore, Derrick's spin buffer is not a semaphore checker as asserted by the Examiner and the cited reference provides no discussion or suggestion of a semaphore checker coupled to a semaphore to allow access to a shared resource as claimed. Accordingly, Applicant respectfully requests the Examiner withdraw the rejection of Claim 24.

Therefore, Applicants respectfully submit that Claims 1, 8, 14, 17 and 24 are patently distinguished over the art cited by the Examiner. Applicants further believe that Claims 2-7, 9-13, 15-16, 18-23, and 25-30 being dependent therefrom are also patentable. Applicants respectfully request the Examiner withdraw his rejection under 35 U.S.C. 103(a).

Applicants, therefore, believe that Claims 1-30 are presently in condition for allowance and such action is earnestly solicited.
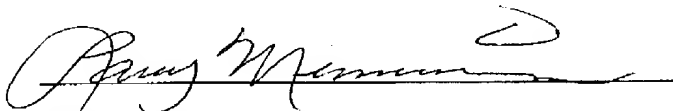
16

CONCLUSION

Applicants respectfully submit the present claims for allowance. If the Examiner believes a telephone conference would expedite or assist in the allowance of the present application, the Examiner is invited to call Lawrence M. Mennemeier at (408) 765-2194.

Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN

Date: 9-7-2004

Lawrence M. Mennemeier

Reg. No. 51,003

12400 Wilshire Boulevard

Seventh Floor

Los Angeles, CA 90025-1026

(408) 720-8300

17